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201.

MATH ON THE JOB

Danielle is the owner of a company in Saint John, New Brunswick, that installs ceramic tile, marble, slate, terrazzo, and granite for exterior and interior walls, floors, and other surfaces. Early spring is a slow time for this type of business, so Danielle's company is offering discounts on materials left in stock from last year. To get the most from this **promotion**, Danielle needs to calculate what percentage discount to offer on each type of material, taking into account what her costs were and how much stock remains. She may also offer a variety of discounts based on quantities bought.

The company has in stock $12'' \times 12''$ slate in sandstone colour that sold for \$6.99 per square foot last year. If Danielle offers it at a 15% discount, what will the sale price be for 50 square feet of slate, before taxes?

During periods when business is slow, a business owner can increase sales by getting in touch with past or potential clients.



EXPLORE THE MATH

When you go shopping, you often see that something is on sale for a discounted price. Frequently, the discount is expressed as a percent. For example, a clothing store may be selling certain items at 20% or 50% off. This may be because the clothes are out of season, out of fashion, or the store buyer may have ordered more than he or she could sell.

Businesses may use other sales promotions to attract buyers. Coupons usually give you a certain amount off the retail price, 25¢ or \$1.00 for example. Companies often use coupon offers to attract consumers so they will try out a new product. More and more, businesses use points systems or customer cards to encourage customer loyalty by offering lower prices or prizes. Do you participate in any rewards programs?

As a consumer, remember to consider the amount of taxes as well as the listed price when making a decision to buy.

promotion: an activity that increases awareness of a product or attracts customers

Example 1

Jonas needs to buy a new winter jacket. He has waited for a sale, and a jacket that originally cost \$249.95 is now discounted 20%. How much will the jacket cost if Jonas lives in Nova Scotia, where HST is 15%?

$$\begin{aligned} \$249.95 \times 0.20 &= \$49.99 \\ 249.95 - 49.99 &= \$199.96 \\ \downarrow \\ 249.95 \times 0.80 &= \$199.96 \\ &\quad \times 1.15 \\ &= \$229.95 \end{aligned}$$

Practice

$$\begin{aligned} \$89.99 &\times 0.70 \\ &= \$62.99 \\ &\times 1.15 \\ &= \$72.44 \end{aligned}$$

Saving 30%
0.30
NS

Example 2

A fisherman sells fresh clams, live lobster, and tuna at the dock in Summerside, Prince Edward Island, directly to customers on Saturdays and Sundays. As the weekend winds down, he needs to sell off his stock, otherwise it will spoil. He has a sale! He offers 20% off all his prices.

Lobster is regularly \$15.00/kg and clams are \$14.00/kg. At a 20% discount, what is the price of 3 kg of lobster? How much would 500 g of clams cost?

Wednesday, February 15th

- Reminder: Extra help Tuesday's and Thursday's at lunch hour
- Next Test/Quiz: Setting the Price/Sale Price/Currency Quiz Thursday
- Next Assignment Due: Thursday, February 16th

Today:

- Warm-up
- Go over answers to homework questions
- Begin Currency Section
- Notes/Examples/Practice questions
- Classwork
- Homework: Finish Assignment and Review for quiz

Warm-up #2



#4 From worksheet

Marco buys a certain brand of shampoo from a supplier at \$7.25 per bottle. He sells it to his customers at a markup of 25%. **What would the markup be?**

#6 From worksheet

What would you have to pay for a jacket that is listed at \$99.95 if you live in Nunavut, where the only tax is 5% GST?

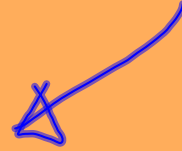
#10 From worksheet

Garth buys snow tires from a dealer in Thunder Bay, ON. The tires cost \$79.00 each. To make a profit, he must mark them up 40%. How much must a customer pay for 4 tires if there is a 12% HST on the final sale?

Classwork/Homework

skip
#4

Text Pg. 37 #1 to 6
and work on
Assignment due
Thursday



$$\frac{3}{2} + \frac{1}{2} = 3 \quad | + \frac{1}{2}$$

1. A supermarket regularly charges \$5.89 for a package of pizza snacks. During a sale, the supermarket offers this promotion: "Buy one at the regular price, get a second one for half price."

a) If Marylyn buys two packages, what will she pay? $5.89 + 2.95 = \$8.84$

b) Approximately what percent does Marylyn save during this sale? Explain your reasoning. 25%

$$5.89 \times 2 = \$11.78 - \$8.84 = \$2.97$$

$$\frac{2.97}{11.78} \times 100 = 25\%$$

2. Rémy works at a sports store in Moncton, NB, where the price of a best-selling tennis racquet is \$49.95. His friend Alain works at a competitor's store where the regular price of a similar tennis racquet is \$55.95, but it is on sale at 15% off. Alain says his store offers the best price.
- a) Calculate the total price of the tennis racquet at each store, including HST.
- b) Is Alain right? Explain why or why not. *Yes*

$$\begin{aligned} \text{a) } 49.95 \times 1.13 &= \$56.44 \\ 55.95 \times 0.85 &= \$47.55 \times 1.13 = \$53.74 * \end{aligned}$$

3. A hairstylist at Top Cuts is preparing a discount offer. The regular cost of highlighting is \$55.00. To attract more customers early in the day, he offers 15% off for appointments before 10:00 am. Mid-afternoon is also a slow time on Wednesdays and Thursdays, so he offers \$5.00 off coupons for appointments made during those times.

- a) Which appointment time will get you the lowest price? *15%.*
- b) Which promotion do you think will appeal to more people, coupons or percent off? Explain your thinking.

$$\begin{aligned} \text{a) } \$55 \times 0.85 &= \$46.75 \\ \$55 - \$5 &= \$50 \end{aligned}$$

4. A roofer in Deer Lake, NL, buys metal roofing at a builder's discount of 20% off the retail price of \$27.50 per square metre. If the roof of your house is 74 square metres and the roofer passes on 50% of the discount he receives to you, how much will you pay for the materials? If his usual hourly rate for labour is \$36.00 and he gives you a 5% discount, how much will you save in labour costs if the job takes 16 hours? Omit the taxes in your calculations.

5. Pole mount industrial fans are on sale at two wholesalers in Sydney, NS. An electrician needs 20 fans for installation in an office building. The sale price at the first store is 5% off the regular price of \$157.00. The price at the second store is ~~\$165.00 each~~, but \$149.00 for 10 or more. HST applies.

a) Calculate the total cost of 20 fans at each store.

b) Which wholesaler offers a better buy?

a) $\$157 \times 0.95 = \$149.15 \times 1.15 = \$171.52 \times 20 = \3430.40
 $149 \times 20 = \$2980 \times 1.15 = \3427

6. Drumdancer Arts and Crafts Shop is located in Happy Valley-Goose Bay, NL. The shop was opened to promote and develop Aboriginal arts, culture, and crafts. The shop has the following items on sale:

- A print of an Inuit *tupiq*, or skin tent, that was \$31.99 is marked down to \$19.99. $12/31.99 \times 100 = 37.5\%$
- A CD featuring throat singers Tama Fost and Jennie Williams that was \$24.95 is marked down to \$21.99.
- A small replica of a bow drill that was \$49.99 is marked down to \$24.99.

- a) Calculate what percentage of markdown each item has been given.
- b) If a customer bought all 3 items, how much would he or she save in total? On which item would the customer save the most?

To find the percent saved :

① Find the amount saved

② Divide the saved amount
by the regular price

③ Multiply by 100.

Example
T-shirt reg is \$20
on sale for \$15

① \$5

② $5 \div 20 = 0.25$

③ $0.25 \times 100 = 25\%$